

Before the
Federal Communications Commission
Washington DC 20554

In the Matter of)	
)	ET Docket 01-278
Review of Part 15 and Other Parts)	RM-9375
of the Commission's Rules)	RM-10051

COMMENTS OF RADAR MEMBERS

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February 12, 2002

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Pursuant to Section 1.415 of the Commission's Rules, the following members of RADAR (Radio Association Defending Airwave Rights, Inc.) submit these Comments in the above-captioned rulemaking:¹ BG Tech America, Inc.; Cobra Electronics Corporation; Escort Inc.; SK Global America, Inc.; and The Whistler Group.² RADAR is a nonprofit organization that seeks to protect motorists' rights to own and use radar/laser detectors, educates the public about police traffic radar/laser and radar/laser detectors, and promotes use of the 24.1 GHz safety radar technology.

This pleading addresses only issues raised in paragraphs 10-14 of the Notice, concerning allegations of interference from radar detectors into VSAT terminals.

A. SUMMARY

The Notice refers to allegations that radar detectors have caused interference to Very Small Aperture Terminal (VSAT) satellite systems, which receive in the 11.7-12.2 GHz band, and asks whether there is a need to regulate unintentional emissions from radar detectors.

¹ *Review of Part 15 and other Part of the Commission's Rules*, ET Docket 01-278, Notice of Proposed Rulemaking and Order, FCC 01-290 (released Oct. 15, 2001) (Notice).

² Together these companies account for over 85% of the radar detector units sold in the United States.

RADAR points out that the Notice is not sufficiently specific to serve as a basis for new regulation. Under the Administrative Procedure Act, the Commission must first issue a Further Notice containing the terms of proposed rules, or a description of them.

Nonetheless, because RADAR members appreciate the urgency of the VSAT operators' concerns, we will not wait for the administrative process to play out, but instead take this proactive position: RADAR members will voluntarily limit radar detector emissions over the VSAT receive band at 11.7-12.2 GHz to Class B levels, applicable to units that are imported or domestically manufactured on or after June 1, 2003. This step makes it unnecessary for the Commission to promulgate rules to protect VSAT systems.

B. ABOUT RADAR DETECTORS

Radar detectors are mobile receivers that operate at the frequencies of police radar transmitters.

Like most modern receivers, a radar detector uses a "local oscillator" to generate a signal internal to the receiver. That signal is combined with the signal being received to produce a third signal, which the receiver amplifies and processes. From a regulatory standpoint, the local oscillator signal is intentionally generated, but is not intentionally emitted. That classifies the receiver as an unintentional radiator.³ Some unintentional radiators are regulated; but the Commission's Rules exempt receivers that tune only above 960 MHz.⁴ All radar detectors meet that qualification, and so are unregulated.

³ 47 C.F.R. Sec. 15.3.

⁴ 47 C.F.R. Sec. 15.101(b).

Consumer radar detectors typically receive frequencies at 10.525, 24.15, and 33.4-36 GHz. For efficiency, one often-seen design uses a local oscillator in the vicinity of 11 GHz, whose second and third harmonics at approximately 22 and 33 GHz are used to receive radar signals near 24 GHz and 35 GHz, respectively. The local oscillator "sweeps" over a range of frequencies to receive radar emissions at different frequencies.

C. ALLEGATIONS OF INTERFERENCE

VSAT systems are satellite networks that use fixed antennas to transmit and receive data. Their authorized receive band is 11.7-12.2 GHz. VSAT antennas are deliberately kept small, some less than 1 meter across, both to maximize flexibility in siting and to limit cost. But the small size comes with a disadvantage: the antennas are relatively nondirectional, and are sensitive to signals coming from angles far removed from the targeted satellite.

The Notice states that the Commission has received "a number of reports of interference" to VSAT terminals.⁵ The VSAT operators, and apparently the Commission as well, attribute at least some of this interference to radar detectors. The Notice goes on to state that radar detectors are mobile and can emit strong signals, and in consequence can have a "real impact" on satellite operations.⁶ More specifically, the Notice speculates that the interference may be due to radar detector local oscillators, and further, that interference may have recently increased because manufacturers are sweeping local oscillators through different frequencies than previously.⁷

⁵ Notice at para. 11.

⁶ *Id.*

⁷ Notice at para. 12.

Commission staff provided RADAR's counsel with copies of test reports on a few individual radar detectors, showing local oscillator emissions above Class B levels.⁸

D. RADAR MEMBERS' RESPONSE

RADAR members do not dispute that their products may exceed Class B levels; and note that this is entirely lawful. Apart from a few anecdotes, however, we are unaware of any evidence linking these emissions to VSAT interference. The Notice neither acknowledges the possibility of other sources of interference nor suggests why that possibility should be excluded. Moreover, interference to a VSAT terminal is impermissible only if it "seriously degrades, obstructs, or repeatedly interrupts" the service,⁹ and the Notice does not allege that interference rises to that level. Finally, the Notice does not mention whether the VSAT community may have exacerbated the problem through unwise siting of its antennas or poor receiver or antenna design. Although the rules put responsibility for harmful interference on the unintentional radiator, a prudent VSAT designer will nonetheless take into account that radio noise is simply a fact of life in populated areas of the country.

The Notice correctly observes that compliance with the existing Part 15 limits would require a product redesign.¹⁰ Indeed, that is an understatement. *Any* significant reduction of local oscillator emissions, if applied to a wide region of the spectrum, would require a comparable redesign. After careful study, RADAR member manufacturers have concluded that such a

⁸ Class B represents the emissions limit for most of the unintentional radiators that are subject to regulation. 47 C.F.R. Sec. 15.109(a).

⁹ The Commission's Rules require Part 15 unintentional radiators to avoid causing "harmful interference," 47 C.F.R. Sec. 15.5(b), which is defined at 47 C.F.R. Sec. 2.1.

¹⁰ Notice at para. 13.

redesign would unavoidably yield a product that is too expensive for its market. In other words, a rule that limited emissions over a wide range of frequencies would effectively eliminate a popular consumer product. We submit that such an outcome is not in the public interest, particularly if reached on the basis of sparse and fragmentary evidence. The "solution" would be far out of proportion to the demonstrated problem.

Reduced emissions limits. At the same time, however, RADAR manufacturers are responsible members of the spectrum community, and we will undertake reasonable and practicable steps to help ensure the protection of other users. To that end, RADAR members voluntarily and unilaterally commit to limiting emissions from radar detectors to Class B levels over the frequency range 11.7-12.2 GHz, where VSAT receivers operate, applicable to units imported or domestically manufactured on or after June 1, 2003. (The delay until then is necessary for manufacturers to redesign, retool, and empty the present production pipeline.) This measure should completely resolve the only reported interference from radar detectors, and so will make regulation unnecessary.

Radar detector emissions in other bands is nothing new. In particular, radar detectors have operated in the region 10.7-11.7 GHz since 1978, with no reports of interference we are aware of. This band is used chiefly by Fixed Service (FS) microwave operators, whose receivers are relatively immune to interference from radar detectors for at least three reasons. First, Commission rules require an FS antenna in this band to be highly directional, at least 38 dBi, so the antenna tends to reject signal sources not directly in front of the dish.¹¹ Second, when an FS link crosses a roadway, it does so high above the pavement -- unlike VSAT receivers, which are

¹¹ 47 C.F.R. Sec. 101.115 (c) (table).

sometimes mounted close to ground level. Third, where a VSAT antenna must receive from a transmitter 22,400 miles distant in geosynchronous orbit, the FS receiver has a target only a few miles away, and so need not be not nearly as sensitive. All of these considerations may explain why there has been no reported harmful interference from radar detectors in the 10.7-11.7 GHz band.¹²

E. FURTHER NOTICE NEEDED FOR ADOPTION OF RULES

The Notice neither proposes specific rules relating to radar detectors, nor specifies the potential reach of such rules. Instead, it raises the topic in the very general terms of a Notice of Inquiry:

We invite comment on *whether there is a need* to require radar detectors to comply with emission limits to minimize the possibility of interference, and if so, what are the appropriate limits. We also seek comments on whether there are any other receivers that tune above 960 MHz that should be required to comply with emission limits. If so, we seek comments on the appropriate limits, and whether the limits should apply in all frequency bands or only certain bands where interference may be more likely to occur, such as the VSAT bands.¹³

Although a notice of proposed rulemaking need not lay out specific rule language,¹⁴ it must provide "sufficient factual detail and rationale for the rule to permit interested parties to comment meaningfully."¹⁵ Notice is inadequate, and further notice is required, where that further

¹² RADAR has given the Fixed Wireless Communications Coalition (FWCC) advance notice of this pleading. The FWCC is a coalition of FS equipment manufacturers and users that often represents the interests of the FS community before the Commission.

¹³ Notice at para. 14 (emphasis added).

¹⁴ See 5 U.S.C. Sec. 553(b)(3).

¹⁵ *National Electrical Manufacturers Ass'n v. EPA*, 99 F.3d 1170, 1172 (D.C. Cir. 1996), citing *Florida Power & Light Co. v. United States*, 846 F.2d 765, 771 (D.C. Cir. 1988),

notice would "provide the first opportunity for interested parties to offer comments that could persuade the agency to modify its rule."¹⁶

The level of detail in the Notice here is far below that needed for meaningful comment. The Notice could conceivably yield any one of a very large number of potential regulatory schemes. Given the sparse information available, we can neither guess what the Commission might ultimately do, nor comment in sufficient detail on each of the many possibilities. If the Commission determines that responses to this Notice warrant adoption of rules, it should lay out those rules, or a description of them, in a Further Notice so that RADAR and others can comment properly.

At the same time, because RADAR members appreciate the urgency of the VSAT operators' concerns, we will not wait for rules, but will voluntarily limit emissions in the 11.7-12.2 GHz band to Class B levels effective June 1, 2003, as described above.

F. RESPONSE TO INITIAL REGULATORY FLEXIBILITY ANALYSIS

The Regulatory Flexibility Act requires the Commission to "minimize the significant economic impact" of its actions on small entities, consistent with the objectives of the Communications Act.¹⁷

cert. denied, 490 U.S. 1045 (1989).

¹⁶ *National Exchange Carrier Ass'n v. FCC*, 253 F.3d 1, 4 (D.C. Cir. 2001), *citing Arizona Public Service Co. v. EPA*, 341 U.S. App. D.C. 222, 211 F.3d 1280, 1299 (2000). *See also Association of Battery Recyclers, Inc. v. EPA*, 341 U.S. App. D.C. 78, 208 F.3d 1047, 1059 (D.C. Cir. 2000); *First American Discount Corp. v. Commodity Futures Trading Comm'n*, 222 F.3d 1008, 1014 (D.C. Cir. 2000).

¹⁷ 5 U.S.C. Sec. 604(a).

All of the RADAR members participating in this pleading are small entities, for purposes of the Regulatory Flexibility Act.¹⁸

For the reasons explained above, a regulation that limits radar detector emissions over a wide region of the spectrum would eliminate the product from the consumer market, and so would seriously harm the members of RADAR. At least some members would be unable to survive in the face of such a regulation.

The alternative offered here -- voluntarily limiting emissions in the frequency range where interference has actually been reported, at 11.7-12.2 GHz -- although still entailing considerable engineering expense, nonetheless will allow RADAR members to continue in business. This alternative fulfills the intent of the Regulatory Flexibility Act by responding to the complaints of interference with minimum adverse impact on the radar detector industry.

CONCLUSION

The evidence that purports to link radar detectors to VSAT interference is anecdotal and fragmentary at best. An attempt to address these allegations by limiting radar detector emissions across a wide range of spectrum would price the product out of its market. That would eliminate an active consumer product industry on the basis of inadequate evidence.

Moreover, because the present Notice did not propose specific remedies, a technical regulation would require a prior Further Notice.

¹⁸ Specifically, each is independently owned and operated and has fewer than 750 employees. See NPRM at *Appendix C: "Initial Regulatory Flexibility Analysis,"* Section C, *Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply.*

Nonetheless, in order to respond to the VSAT industry concerns promptly and with minimum disruption, RADAR members will voluntarily limit emissions from radar detectors to Class B levels over the frequency range 11.7-12.2 GHz, effective for units imported or domestically manufactured on or after June 1, 2003. This resolves all reported interference and eliminates any need for regulation.

Respectfully submitted,

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February 12, 2002

SERVICE LIST

I certify that I have caused copies of the foregoing "Comments of RADAR Members" to be transmitted by email and by hand delivery (except as noted) to the following persons:

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